

CHAPTER 2
MINIMUM STANDARDS FOR PROPERTY SURVEYS
[Prior to 6/1/88, see Engineering and Land Surveying Examiners, Board of[390] Ch 2]

193C—2.1(542B) Scope. Each land surveyor is required to meet the minimum standards for property surveys described by statute or administrative rule. The minimum standards of this rule shall apply to all property surveys performed in this state except those done for acquisition plats as described in Iowa Code chapter 354.

193C—2.2(542B) Definitions.

“*Plat*” shall mean both plats of survey and subdivision plats as defined in Iowa Code section 355.1.

“*Property survey*” shall mean any land survey performed for the purpose of describing, monumenting, retracing and establishing boundary lines, dividing, subdividing, or platting one or more parcels of land.

“*Retrace*” shall mean following along a previously established line to logical termini monumented by corners that are found or placed by the surveyor.

193C—2.3(542B) Boundary location. Every property survey should be made in accordance with the legal description (record title) boundaries as nearly as is practicable. The surveyor shall acquire data necessary to retrace record title boundaries, center lines, and other boundary line locations. The surveyor shall analyze the data and make a careful determination of the position of the boundaries of the parcel being surveyed. The surveyor shall make a field survey, locating and connecting monuments necessary for location of the parcel and coordinate the facts of such survey with the analysis. The surveyor shall set monuments marking the corners of such parcel unless monuments already exist at such corners.

193C—2.4(542B) Descriptions. Descriptions defining land boundaries written for conveyance or other purposes shall be complete, providing definite and unequivocal identification of lines or boundaries. The description must contain dimensions sufficient to enable the description to be platted and retraced and shall describe the land surveyed either by government lot or by quarter-quarter section or by quarter section and shall identify the section, township, range and county; and by metes and bounds commencing with some corner marked and established in the U.S. Public Land Survey System; or if such land is located in a recorded subdivision or recorded addition thereto, then by the number or other description of the lot, block or subdivision thereof which has been previously tied to a corner marked and established by the U.S. Public Land Survey System. If the parcel is described by metes and bounds it may be referenced to known lot or block corners in recorded subdivision or additions.

193C—2.5(542B) Plats. A plat shall be drawn for every property survey performed showing information developed by the survey and including the following elements:

2.5(1) The plat shall be drawn to a convenient scale which shall be clearly stated and graphically illustrated by a bar scale on every plat sheet.

2.5(2) The plat shall show the length and bearing of the boundaries of the parcels surveyed. Where the boundary lines show bearing, lengths or locations which vary from those recorded in deeds, abutting plats or other instruments, there shall be the following note placed along such lines, “recorded as (show recorded bearing, length or location).”

2.5(3) The plat shall show and identify all monuments necessary for the location of the parcel and shall indicate whether such monuments were found or placed and shall include an accurate description of each monument consisting of but not limited to size, shape, material type, capped with license number, and color.

2.5(4) The plat shall be captioned to identify the person for whom the survey was made, the date of the survey, and shall describe the parcel as provided in rule 2.4(542B) above.

2.5(5) The plat shall show that record title boundaries, centerlines, and other boundary lines were retraced to monuments found or placed by the surveyor. The surveyor shall retrace those exterior lines of a section which divide a metes and bounds described parcel to determine acreage for assessment and taxation purposes.

2.5(6) The plat shall show that the survey is tied to a physically monumented land line which is identified by two United States public land survey system corners or by two physically monumented corners of a recorded subdivision. The plat shall show a distance relationship measured by the surveyor between the two corners on the physically monumented land line. The physically monumented land line shall be germane to the survey of the lot, parcel, or tract.

2.5(7) The plat shall bear the signature of the land surveyor, a statement certifying that the work was done by the surveyor or under the surveyor's direct personal supervision, and the surveyor's Iowa licensure number and legible seal as provided in rule 193C—1.30(542B).

2.5(8) The surveyor shall record every plat and description with the county recorder no later than 30 days after signature on the plat by the surveyor. The 30-day requirement shall not apply to subdivision plats.

193C—2.6(542B) Measurements.

2.6(1) Measurements shall be made with instruments and methods capable of attaining the required accuracy for the particular problem involved.

2.6(2) Measurements as placed on the plat shall be in conformance with the capabilities of the instruments used.

2.6(3) The unadjusted closure for all closed traverse surveys shall be not greater than 1 in 5,000 and, for subdivision boundaries, 1 in 10,000.

2.6(4) In a closed traverse the sum of the measured angles shall agree with the theoretical sum by a difference not greater than 30 seconds times the square root of the number of angles.

2.6(5) The unadjusted error of field measurements shall not be greater than 1 in 5,000.

2.6(6) The relative positional tolerance at the 95 percent confidence level shall be as follows:

a. For subdivision boundaries: $\pm(0.13 \text{ feet} + 1:10,000)$.

b. For all other land surveying: $\pm(0.26 \text{ feet} + 1:5,000)$.

2.6(7) Bearings or angles on any property survey plat shall be shown to the nearest one minute; distance shall be shown to the nearest one-tenth foot.

193C—2.7(542B) Monuments. Permanent monuments shall be constructed of reasonably permanent material solidly embedded in the ground and capable of being detected by commonly used magnetic or electronic equipment. The licensed land surveyor shall affix a cap of reasonably inert material bearing an embossed or stencil cut marking of the Iowa licensure number of the licensed land surveyor to the top of each monument set by the surveyor. Monuments or marks placed in pavements need not be capped. See rule 2.3(542B).

193C—2.8(355) U.S. Public Land Survey Corner Certificate.

2.8(1) A corner is considered a part of the U.S. Public Land Survey System if it has the status of a corner of a:

- a.* Quarter-quarter section or larger aliquot part of a section.
- b.* Fractional quarter-quarter section or larger fractional part of a section.
- c.* Government lot.

2.8(2) A U.S. Public Land Survey Corner Certificate shall be prepared by the surveyor as part of any land surveying which includes the use of a U.S. Public Land Survey System corner if one or more of the following conditions exist:

- a.* There is no certificate for the corner on file with the recorder of the county in which the corner is located.
- b.* The surveyor in responsible charge of the land surveying accepts a corner position which differs from that shown in the public records of the county in which the corner is located.
- c.* The corner monument is replaced or modified in any way.
- d.* The reference ties in an existing public record are incorrect or missing.

2.8(3) A U.S. Public Land Survey Corner Certificate shall comply with the following requirements:

- a.* The identity of the corner, with reference to the U.S. Public Land Survey System, shall be clearly indicated.
- b.* The certificate shall contain a narrative explaining:
 - (1) The reason for preparing the certificate.
 - (2) The evidence and detailed procedure used in establishing or confirming the corner position whether found or placed.
 - (3) The monumentation found or placed perpetuating the corner position with an accurate description of each monument including but not limited to size, shape, material type, capped with license number, and color.
 - (4) The extent of the search for an existing monument when the corner is reset as obliterated or lost.
- c.* The certificate shall contain a plan-view drawing depicting:
 - (1) Relevant monuments including, but not limited to, the reference monumentation and an accurate description thereof.
 - (2) Physical surroundings including, but not limited to, highway and street center lines, fences, structures and other artificial or natural objects as applicable that would facilitate recovery of the corner.
 - (3) Reference ties in sufficient detail to enable recovery of the corner. There shall be at least three reference ties from the corner to durable physical objects near the corner which are located so that the intersection of any two of the ties will yield a strong corner position recovery. All ties shall be measured to one-hundredth of a foot.
- d.* The certificate shall contain a certification statement, seal, signature and date by the surveyor in accordance with rule 193C—1.30(542B).

2.8(4) The surveyor shall record the required U.S. Public Land Survey Corner Certificate and forward a copy to the county engineer of the county in which the corner is located within 30 days after completion of the surveying.

These rules are intended to implement Iowa Code sections 355.3 and 542B.2.

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